

REMARKS

The claims have been amended to more clearly define the invention as disclosed in the written description. In particular, claims 5-7 have been cancelled. Furthermore, the claims have been amended for clarity.

The Examiner has rejected claims 1-7 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 4,817,149 to Myers.

The Myers patent discloses a three-dimensional auditory display apparatus and method utilizing enhanced bionic emulation of human binaural sound localization, in which audio output signals are applied to speakers or earphones 190 and 192 located on opposite sides of a listener. An object of Myers is to control the listener-perceived direction from which the sound is originating. In front-to-back positioning, two FIR filters F1 and F2 process the input signal, these two filters inversely processing the same frequency bands in the input audio signal.

As noted in MPEP § 2131, it is well-founded that "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Further, "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

The Examiner has indicated that Myers teaches "an audio processor (see fig.1) with a filter arranged for applying a first head related transfer function (reads on finite impulse response (FIR), fig.7 (F1)) over a predetermined first frequency range to an input audio signal from an audio signal source (110), and yielding an output audio signal for a sound production means (190, 192) (see col. 6 line 23-62)".

Applicant submits that the Examiner is mistaken. In particular, there is no disclosure in Myers of a first "head related transfer function". A head related transfer function is a measure of the parameters for modifying a signal at the ear of a listener such that the listener perceives the sound as originating from remote loudspeaker. The head related transfer function takes into consideration wall reflections, interactions with the torso as well as the ear pinna of the listener. Applicant submits that while the frequency bands operated on by the filters F1 and F2 are determined based on the ear pinna, there is no disclosure that whatever coefficients are applied to the filter F1 are head related transfer function coefficients. Further, there is no disclosure in Myers that the transfer function of the filter F1/F2 operates over a predetermined first frequency range.

The Examiner further indicates that Myers teaches "a first data source (pick up by microphones 196,198), which is arranged for delivering first filter coefficients of the first head related transfer function to the filter (see col. 17 line 66-col. 18 line 43)".

Again, Applicant submits that the Examiner is mistaken. In particular, microphones 196 and 198 are merely positioned 18 inches apart and are arranged to pick up "sounds of crowds or groups of people" (col. 18, lines 29-31). There is no disclosure that these microphones are positioned in or at the ears of a person. As such, these microphones cannot be delivering sound signals indicative of the head related transfer function. Further, the output signals from the microphones are sound signals and are applied for processing to the Myers system. There is no disclosure in Myers that these sound signals result in coefficients for application to the filters F1 and F2.

In addition, the Examiner indicates that Myers teaches "a second data source (such as, a table of predetermined parameters stored in memory) is comprised, which is arranged for delivering second filter coefficients (reads on finite impulse response ((FIR), because it includes coefficients) of a second head related transfer function (F2) over a predetermined second frequency range, unequal to the first frequency range, to the filter for filtering the input audio signal yielding the output audio signal (190, 192) (see figs. 1, 3-7 and col . 8 line 24-68 and col. 17 line 65- col. 18 line 27)".

Applicant has reviewed Myers and has not found any disclosure of a second data source, memory or the like for supplying second filter coefficients of a second head related transfer function over a predetermined second frequency range, unequal to the first frequency range to the filter. Rather, the

only thing disclosed in Myers is that the filter F1 is arranged to boost the signal content in the input audio signal in two prescribed frequency bands and the attenuate the signal content in the input audio signal in another two prescribed frequency bands.

In view of the above, Applicant believes that the subject invention, as claimed, is neither anticipated nor rendered obvious by the prior art, and as such, is patentable thereover.

Applicant believes that this application, containing claims 1-4, is now in condition for allowance and such action is respectfully requested.

Respectfully submitted,

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